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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/063,549	05/02/2002	Dan L. Eaton	P3230R1C001-168	9996

30313 7590 03/24/2005

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EXAMINER	
DUFFY, PATRICIA ANN	
ART UNIT	**PAPER NUMBER**
1645	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/063,549	EATON ET AL.	
	Examiner	Art Unit	
	Patricia A. Duffy	1645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-13 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 02 May 2002 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2002.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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DETAILED ACTION

The preliminary amendment filed 9-8-02 has been entered into the record. Claims 1-13 are pending.

Priority

Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged. However, the provisional application upon which priority is claimed fails to provide adequate support under 35 U.S.C. 112 for claims 1-13 of this application.

According to the priority statement of 9/8/02, it appears that the claimed subject matter defined in the instant application is not supported by the parent application serial no. 10/006,867. Based on the information given by applicant and an inspection of the patent applications, the examiner has concluded that the subject matter defined in this application is not supported by the disclosure in any of the applications for which Applicants claim priority because the claimed subject matter does not have utility, enablement or written description in any of the prior applications for reasons set forth herein. Accordingly, the subject matter defined in claims 1-13 has an effective filing date of 5-2-02.

Should the applicant disagree with the examiner's factual determination above, it is incumbent upon the applicant to provide the serial number and specific page number(s) of any parent application filed prior to 5-2-02 which specifically supports the particular claim limitation for each and every claim limitation in all the pending claims which applicant considers to have been in possession of and fully enabled for prior to 5-2-02.

Drawings

The drawings in this application have been approved by the Draftsperson. No further action is required by Applicants.

Specification

The disclosure is objected to because of the following informalities:

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The title and abstract of the invention are not descriptive of the now claimed invention. A new title and abstract are required that is clearly indicative of the invention to which the claims are directed.

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code at least at page 35. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01. Applicants should review the lengthy specification for other browser-executable code and delete or amend appropriately.

The use of the trademark ATCC™ has been noted in this application. They should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner that might adversely affect their validity as trademarks. For example, the trademark American Type Culture Collection (ATCC ™) needs to be recognized wherever it appears.

Information Disclosure Statement

The information disclosure statement filed 9-10-02 has been considered with the exception of the BLAST sequences. The BLAST results demonstrate that applicants are ware of nucleic acids with identity/homology to the one claimed herein. However, as the BLAST results do not give sufficient identifying information, the Examiner cannot determine if said sequences constitute prior art.

An initialed copy is enclosed.

Claim Objections

Claims 1-13 are objected to because of the following informalities: the claims improperly reference Figures. Referencing figures in a claim is only proper when the information contained therein cannot be represented in any other manner (MPEP 2173.05(s)). Further, the sequence rules require sequences to be claimed by their appropriate sequence identifier number and not Figure number. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.

The pending claims have been reviewed in light of the Utility Examination Guidelines and Guidelines for Examination of Patent Applications under 35 USC 112, first paragraph, "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1092-111, Friday, January 5, 2001.

Claims 1-13 are rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility due to its not being supported by a specific, substantial and credible utility or, in the alternative a well-established utility.

The claims are drawn to a polypeptide shown in Figure 46 (SEQ ID NO:46), fragments, percentage variants thereof encoded by SEQ ID NO:46 and chimeric polypeptides. The polypeptide is encoded by the polynucleotide of SEQ ID NO:45. The specification does not disclose any secondary or tertiary structural features of this polypeptide, nor does it assert that the polypeptide has any homology with known, characterized polypeptides. The instant specification does not disclose any additional information regarding PRO1138 such as biological activity, subcellular location, timing of regulation during cellular differentiation, which hormones or transcription factors regulate PRO1138, and what physiological significance PRO1138 plays. Therefore, it is a totally new, uncharacterized polypeptide with no well-established utility based on the above features of known characterized polypeptide families.

The specification generally asserts that all of the disclosed PRO polypeptides will be useful for a number of purposes; however, none of these asserted uses meet the three-pronged requirement of 35 U.S.C. § 101 regarding utility, namely, that the asserted utility be credible, specific and substantial. The asserted utilities will each be addressed in turn.

1) the PRO polypeptide can be used to isolate other polypeptides to which it binds: This asserted utility is not specific or substantial. Since the same can be done with any polypeptide, the asserted utility is not specific to the claimed PRO1138 polypeptides. Furthermore, since the specification does not disclose how PRO1138 or its binding partners can be used, significant further research would be required of the skilled artisan to determine how to use the claimed polypeptide or its binding partner. Since the asserted utility is not presented in a ready to use, real-world application, the asserted utility is not substantial.

2) the PRO polypeptide can be used as a molecular weight marker: This asserted utility is not specific. Since the same can be done with any polypeptide, the asserted utility is not specific to the claimed PRO1138 polypeptides.

3) the PRO polypeptide can be used in tissue typing: This asserted utility is not specific or substantial. With the exception of a few housekeeping genes, all polypeptides have a tissue specific pattern of expression, and thus virtually any polypeptide can be used in tissue typing. Thus, the asserted utility is not specific to PRO1138.

4) the PRO polypeptide can be used in therapy in general: This asserted utility is not specific or substantial. Since a defect in any polypeptide is likely to cause a disease of some sort, every polypeptide is a target for drug development. Thus, the asserted utility is not specific to the claimed PRO1138 polypeptide. Furthermore, the specification does not disclose a nexus between any specific disease states and a change in amount or form of PRO1278. Significant further research would have to be conducted to identify such a nexus. Therefore, the asserted utility is not substantial.

5) the PRO polypeptide can be used to identify agonists or antagonists: Since the same can be done with any polypeptide, the asserted utility is not specific to the claimed PRO1138 polypeptides. Furthermore, since no activity has been assigned to PRO1138, the assays cannot be conducted until the specific biological activities of PRO1138 are determined empirically. Therefore, the asserted utility is also not substantial.

6) the PRO polypeptide can be used in tumor/cancer diagnostics or therapeutics: The teaching of the specification indicate that the polypeptide can be used in tumor/cancer diagnostics or therapeutics because the mRNA expression as assessed by quantitative PCR of cDNA libraries is "more highly expressed". In particular, the specification discloses that PRO1138 was tested using quantitative PCR amplification reactions with cDNA libraries isolated from different human tumor and normal human tissue samples and analyzed by agarose gel electrophoresis so as to obtain a quantitative determination of the level of expression of the nucleic acid encoding the PRO polypeptide

(specification page 140). The specification alleges that the differential expression in one or more tumor tissues as compared to one or more normal tissues of the same tissue type renders the molecule useful diagnostically for the determination of the presence or absence of tumor in a subject suspected of possessing a tumor as well as therapeutically as a target for the treatment of a tumor in a subject possession such a tumor. The specification lack utility for the protein because (a) the higher levels of mRNA alleged in the specification have not been demonstrated to be statistically significant and (b) the art recognizes that neither gene copy number or mRNA levels predictably correlate with levels of protein expression. As to point (a) mRNA encoding the PRO1138 polypeptide (DNA 58850-1495) was reported as "more highly expressed in" esophageal and kidney tumor as compared to normal esophageal and kidney (specification page 141). The specification is devoid of teaching of the number of samples tested, the statistical significance if any of the "more highly expressed" and the specific probe used for the alleged quantitative analysis performed. The data presented are not quantitative and as such, the relevance as compared to the recited control is ambiguous. Further, it appears that normal cells such as stomach and skin express the nucleic acid more highly as compared to tumors. As such, since the cDNA, proteins or antibodies are not described as being specifically correlated with a specific type of cancer the skilled artisan could not distinguish tumors from non-tumors based on the alleged "more highly expressed" criteria only. Therefore, the asserted use as diagnostic marker or targets of therapeutic intervention are not persuasive to impart a specific utility. This relevance of the asserted higher expression very vague, and does not disclose what mathematical calculations, if any, were used to establish significance of the finding across a variety of samples from different patients. Therefore, the apparent single data point presented in the quantitative PCR is preliminary at best, and cannot be evaluated or repeated independently by the skilled artisan. Clearly, further research would be required of the skilled artisan to establish the statistical significance if any, and whether and how a probe used in the PCR

assay could be used as diagnostic markers or therapeutic targets. Such further experimentation indicates that the asserted utility is not in currently available form for the disclosed nucleic acid of SEQ ID NO:45 encoding the polypeptide of SEQ ID NO:46. Furthermore, the literature indicates that such results are to be evaluated very critically. For example, Hu et al. (2003, Journal of Proteome Research 2:405-412) analyzed 2286 genes that showed a greater than 1-fold difference in mean expression level between breast cancer samples and normal samples in a microarray (p. 408, middle of right column). Hu et al. discovered that, for genes displaying a 5-fold change or less in tumors compared to normal, there was no evidence of a correlation between altered gene expression and a known role in the disease. However, among genes with a 10-fold or more change in expression level, there was a strong and significant correlation between expression level and a published role in the disease (see discussion section). Therefore, in the absence of a statistical significance of the data and quantitative evaluation it would appear that the relationship between the reported "higher expression" as it relates to tumor formation and role in tumor formation or role in normal cells remains to be established. Consequently, any relevance with respect to using the nucleic acid, protein or antibody for therapeutic purposes remains to be established. As to point (b), it is noted that the art establishes that increased gene copy number does not necessarily lead to increased mRNA expression and increased mRNA production does not necessarily lead to increased protein production. Pennica et al (Proc. Nal. Acad. Sci, 95:14717-14722, 1998) demonstrates an example that gene amplification does not correlate with the protein levels. Haynes et al. (Electrophoresis, 19:1862-1871, 1998) found "a general trend" but no significant correlation between nucleic acid level and translation and protein levels. Further, Haynes et al teach that polypeptide levels cannot be accurately predicted from mRNA levels and that variances as much as 40-fold or even 50-fold were not uncommon (p 1863). Haynes et al used yeast as an art-accepted model for eukaryotic systems. Additionally, Konopka et al (PNAS 83:4049-52, 1986) states that "Protein expression is not related to amplification

of the abl gene but to variation in the level of bcr-abl mRNA production from a single Ph1 template" (see abstract). Further, the lack of demonstrable correlation of mRNA expression levels with protein levels was so well known in the art at the time of filing, it was reported in a general text book. Lewin (Genes VI (1997) Chapter 29, pages 847-848) teaches that the concept that transcription levels do not correlate with protein levels was so well known to the art that it was presented in a textbook. Lewin, Genes VI (1997) Chapter 29, pages 847-848 which specifically teaches "... production of RNA cannot be inevitably be equated with production of protein...." (page 487, column 2, last paragraph . This concept reconfirmed by a variety of studies such as that evidenced by Gokman-Polar et al (Cancer Research 61:1375-1381, 2001) that indicates the absence of any necessary correlation between increased mRNA levels and increased protein levels. Gokman-Polar et al that teach "Quantitative reverse transcription-PCR analysis revealed that the PKC mRNA levels do not directly correlate with PKC protein levels, indicating that PKC isoenzyme expression is likely regulated at the posttranscriptional/translational level" (see abstract). Gokman-Polar et al show in Figure 6-7 that there is no increasing mRNA expression for any of the isoenzymes, while the protein is significantly overexpressed as shown by Figure 4-5. Given the totality of the evidence provided by Pennica et al, Haynes et al, Konopka et al and Lewin et al, it is clear that those skilled in the art would not assume that an alleged increase in gene copy number or increase in mRNA levels would correlate with increased polypeptide levels. One skilled in the art would have to do further research to determine whether or not the polypeptide levels were higher, and whether the higher levels were statistically significant. As such, the claimed polypeptides do not have utility.

Thus, the proposed use of the PRO1138 polypeptides as diagnostic markers and therapeutic targets are simply starting points for further research and investigation into potential practical uses of the polynucleotides, encoded polypeptides and antibodies that bind the polypeptides. "The basic quid pro quo contemplated by the Constitution and the

Congress for granting a patent monopoly is the benefit derived by the public from an invention with substantial utility", [u]nless and until a process is refined and developed to this point-where specific benefit exists in currently available form- there is insufficient justification for permitting an application to engross what may prove to be a broad filed", and "a patent is not a hunting license". "[i]t is not a reward for the search, but compensation for its successful conclusion." Similarly, the other listed and asserted utilities in the specification as exemplified by the other Examples are not particularly disclosed with respect to the claimed polypeptides or are neither substantial nor specific due to being generic in nature and applicable to a myriad of such proteins. (*Brenner v. Manson*, 148 USPQ 689 (Sus. Ct. 1996). Additionally, the courts have held that the disclosure is insufficient when testing is necessary to determine the actual use or possible lack of use (*In re Kirk and Petrow* (CCPA) 153 USPQ 48). Note, because the claimed invention is not supported by a specific and substantial asserted utility for the reasons set forth above, credibility has not been assessed. Neither the specification as filed nor any art of record discloses or suggests any property or activity for the nucleic acid per se, the polynucleic acid encoding the PRO polypeptide or the anti-PRO antibody that binds the polypeptide such that another non-asserted utility would be well established for the instantly claimed compounds.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claims 1-6, 9, 10 and 12-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a written description rejection.

The claims are drawn to polypeptides having at least 80%, 85%, 90%, 95% or 99% sequence identity with a particular disclosed sequence. The claims are also drawn to fragments such as "the extracellular domain of a polypeptide lacking its associated signal peptide" or "the extracellular domain" of the polypeptide *per se*. The claims do not require that the polypeptide possess any particular biological activity, nor any particular conserved structure, or other disclosed distinguishing feature. Thus, the claims are drawn to a genus of polypeptides that is defined only by sequence identity or undefined structure.

To provide adequate written description and evidence of possession of a claimed genus, the specification must provide sufficient distinguishing identifying characteristics of the genus. The factors to be considered include disclosure of complete or partial structure, physical and/or chemical properties, functional characteristics, structure/function correlation, methods of making the claimed product, or any combination

thereof. In this case, the only factor present in the claim is a partial structure in the form of a recitation of percent identity or undefined fragment thereof. There is not even identification of any particular portion of the structure that must be conserved. Accordingly, in the absence of sufficient recitation of distinguishing identifying characteristics, the specification does not provide adequate written description of the claimed genus.

Vas-Cath Inc. v. Mahurkar, 19USPQ2d 1111, clearly states "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed." (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath at page 1116). As discussed above, the skilled artisan cannot envision the detailed chemical structure of the encompassed genus of polypeptides, and therefore conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolating it. The compound itself is required. See Fiers v. Revel, 25 USPQ2d 1601 at 1606 (CAFC 1993) and Amgen Inc. v. Chugai Pharmaceutical Co. Ltd., 18 USPQ2d 1016.

One cannot describe what one has not conceived. See *Fiddes v. Baird*, 30 USPQ2d 1481 at 1483. In Fiddes, claims directed to mammalian FGF's were found to be unpatentable due to lack of written description for that broad class. The specification provided only the bovine sequence.

Further, the specification and Figure 46 in particular, does not teach the claimed extracellular domain structure of SEQ ID NO:46. The specification does not teach any subsequence of the polypeptide of SEQ ID NO:46 or Figure 46 that corresponds to an extracellular domain or extracellular domain lacking a signal sequence as recited in the

claims. Therefore, the specification as filed does not set forth in a clear manner or in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the variants or fragments of the polypeptide as now claimed.

Therefore, only a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:46, but not the full breadth of the claim meets the written description provision of 35 U.S.C. §112, first paragraph. Applicant is reminded that Vas-Cath makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision (see page 1115).

Claims 1-6 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification at pages 120-123 lacks complete deposit information for the deposit of the full length cDNA encoding the claimed polypeptide deposited at the American Type Culture Collection as set forth in embodiment (e) of claims 1-6 and claim 11 as dependent there from. It is not clear that the deposit is known and publicly available or can be reproducibly isolated from nature without undue experimentation or if it is the same as SEQ ID NO:45 encoding the polypeptide of SEQ ID NO:46 or contains additional nucleic acid sequences that encode additional amino acid residues. As such, a deposit for patent purposes is required. The referral to the deposit on page 123 is an insufficient assurance that all required deposits have been made and all the conditions of 37 CFR 1.801-1.809 have been met. The specification states that pursuant to an "agreement" between Genentech, Inc. and the ATCC™, permanent unrestricted availability to the public of the progeny of the culture upon issuance of "the pertinent US Patent" is provided for. This is insufficient because agreements are contracts that are revocable and the

conditions therein are revocable. Further, it is unclear what would be considered the "pertinent US Patent". As such, Applicants are required to provide assurances that All restrictions upon pubic access to the ATCC™ accession number 209956 as specifically claimed, will be "irrevocably removed upon the grant of a patent from this application" specifically using this exact language. Since "agreements" are subject to revocation, this assurance is required for patent purposes. The assurances should be made by an affidavit or declaration by Applicants or Assignees or a statement by an attorney of record who has authority and control over conditions of the deposit over his or her signature and registration number. Applicants are specifically directed to MPEP 2424.01 that states "with one possible exception (37 CFR 1.808(b)), that all restrictions on the accessibility be irrevocably removed by the applicant upon the granting of the patent" are required see *Ex parte Hildebrand*, 15 USPQ2d 1662 (Bd. Pat. App. & Int. 1990). Further, the statement is not in compliance with MPEP 1.806 that requires "A deposit made before or during pendency of an application for patent shall be made for a term of at least thirty (30) years and at least five (5) years after the most recent request for the furnishing of a sample of the deposit was received by the depository. In any case, samples must be stored under agreements that would make them available beyond the enforceable life of the patent for which the deposit was made."

Claims 1-6, 9, 10 and 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to all of the recited claims. The claims comprise the limitations that the claimed nucleic acid encoding the polypeptide comprise an "extracellular domain" or "the extracellular domain lacking its associated signal peptide", and "the extracellular domain" is not defined in the specification or claims. These limitations are indefinite because neither the figure nor the specification define or teach the metes and bounds of these

specific fragments. Further, if the protein has an extracellular domain, the recitation of "the extracellular domain"..."lacking its associated signal sequence" is indefinite as a signal sequence is not generally considered to be part of an extracellular domain, as signal sequences are cleaved from said domains in the process of protein production in the cell.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7, 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by STREMBL_25 database accession number Q9NY23, created 01 Oct 2000.

Q9NY23 teaches a polypeptide sequence that is 100 % identical as compared with SEQ ID NO:46. As such, the polypeptide of the prior art meets the limitations of the claims.

Claims 1-13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated byStarling et al (WO 01/46260, with priority to US provisional application 60/172,025 filed 23 December 1999) or Starling et al (U.S. Patent Application Publication US 2002/0123617, published Sept 5, 2002 with priority to US provisional application 60/170,025 filed 23 December 1999).

It is noted that the teachings of the WO document and the US Patent Application Publication are identical. As such, only the particulars of the WO document teachings are set forth in detail.

Starling et al teach a human protein APEX-1 represented by SEQ ID NO:4 that is 100% identical as compared with SEQ ID NO:46. Starling et al therefore anticipates claims 1-7, 9 and 11 on this basis. Figure 10 of Starling et al teaches the extracellular domain of APEX-1 (i.e. the instant SEQ ID NO:46 extracellular domain) in an IgFc fuson protein. Starling et al teach the signal sequence of APEX-1 is represented by Met 1-Ala22. Starling et al teach that the APEX-1 protein is composed of a signal sequence, an extracelluar domain, a transmembrane domain and a cytoplasmic domain (Figure 2). Starling et al teach that the APEX-1 proteins may be fusion proteins comprising heterologus peptides such as a FLAG epitope (see page 10, lines 15-20). APEX protein fragments having APEX activity are taught (see page 15, lines 15-20). Starling et al teach that the domains are particularly useful for generating domain specific antibodies (see page 20, lines 9-19). Starling et al teaches chimeric or fusion proteins and include his-tags, FLAG and immunoglobulin (see paragraph bridging pages 36-37). As such, Starling et al anticipates the instantly claimed invention.

Claims 1-13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated Khodadoust (U.S. Patent Application Publication, 2002/0004193 published 10 January 2002 with priority to provisional applcation 60/090,579 filed June 25, 1998).

Khodadoust et al teach a polypeptide MP-7 represented by SEQ ID NO:2 which is 100% identical as compared to the instantly claimed SEQ ID NO:46 and as such anticipates claims 1-7, 9 and 11 on this basis. Khodadoust et al teach fragments of the MP-7 protein comprising Ig-like domains (i.e. the extracellular domains lacking the signal sequence; see [0015]) and MP-7 absent the signal sequence (see [0063]) and optionally fused to a heterologous signal sequence or tag that facilitates purification of recombinant MP-7 (see [0111-0115]). As such, Khodadoust et al anticipate claims 1-13.

Status of the Claims

Claims 1-13 stand rejected.

Conclusion

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia A. Duffy whose telephone number is 571-272-0855. The examiner can normally be reached on M-Th 6:30 am - 6:00 pm. If attempts to

reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith can be reached on 571-272-0864.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Patricia A. Duffy, Ph.D.

Primary Examiner

Art Unit 1645